

### Trend Study 5-4-01

Study site name: Wanship.

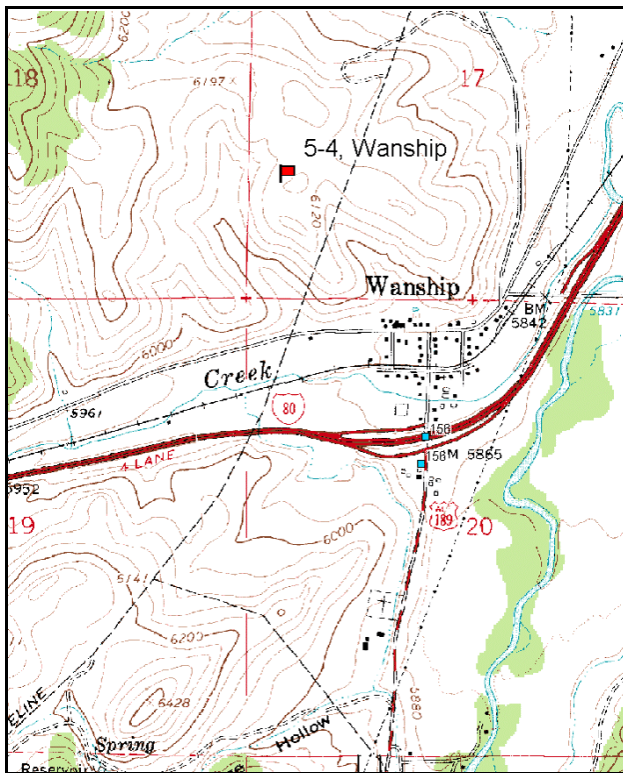
Vegetation type: Forage Kochia.

Compass bearing: frequency baseline 161 degrees magnetic.

Frequency belt placement: Line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

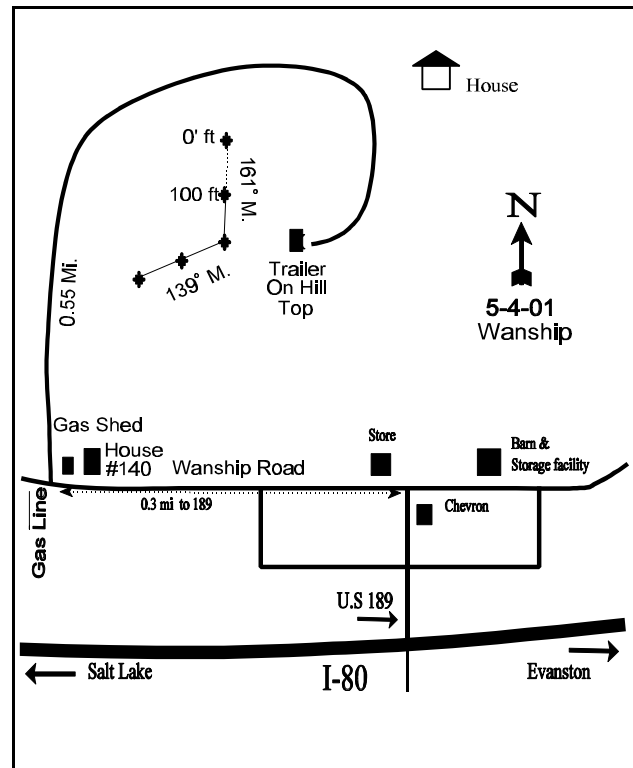
### LOCATION DESCRIPTION

From the I-80 overpass in Wanship, proceed north on 189 to the "T" junction in town with Buck's Chevron on the right. Turn left and go 0.3 miles. Turn right here and go up the draw 0.55 miles to a house on top of the hill. The owner of this home would like to be contacted when the site is read. From the fork in the road take a bearing of 220 degrees magnetic and walk 36 paces to the baseline. The 0-foot stake of the baseline is marked by browse tag #7955. The baseline runs 161 degrees magnetic. The baseline doglegs at the 200-foot baseline stake and runs 193 degrees magnetic.



Map Name: Wanship

Township 1N, Range 5E, Section 17



Diagrammatic Sketch

UTM 4518294 N 465163 E

## DISCUSSION

### Trend Study No. 5-4

The Wanship study samples a tract of mountain big sagebrush/grass that extends north of Wanship and west of the Weber River. The site is located on a bench just north of Wanship. Slope is approximately 3% with a west southwest aspect. The site was established in 1984 and reread in 1990. A wildfire burned the entire area sometime after the 1990 reading which eliminated most of the browse. This is an area that customarily winters several hundred deer. Deer use during the winter of 1983-84 was light because of deep crusted snow and that deer were supplementary fed a pelleted ration alfalfa at feeding stations located along the frontage road near Wanship. There were numerous deer pellet groups encountered in 1996, indicating that deer still use the area. Quadrat frequency of deer pellet groups was moderately high at 36%. Some livestock sign was also apparent but likely from the previous fall. Gopher activity was noted. A pellet group transect read on site in 2001 estimated 67 deer, 24 elk and 13 cow days use/acre (165 ddu/ha, 60 edu/ha, and 32 cdu/ha). A nearby land owner said that there were nearly 50 deer wintering in the area and he counted over 100 elk on the ridge just west of the site during the 2000/2001 winter. He also said that cattle heavily graze the area later in the summer.

Soil at the site appears fairly deep but rocky on the surface. Effective rooting depth was estimated at only 9 inches but it is likely deeper and not restrictive to roots due to the presence of mountain big sagebrush. Soil textural analysis indicates a loam soil with a relatively high soil temperature of 78°F at 8 inches. Color is a dark reddish-gray resulting from what apparently is basalt parent material. There is not much bare ground due to the abundant vegetative and litter cover. Erosion is not severe because of the gentle terrain and soil permeability. The soil erosion condition class was determined as stable in 2001.

The key browse species is mountain big sagebrush. It had a density of over 3,000 plants/acre in 1984 and 1990. A fire burned the site sometime after the 1990 reading and eliminated most of the sagebrush. Burned stumps encountered in 1996 were classified as dead. In 1996, density of sagebrush was estimated at 2,880 plants/acre, 98% of which were young. The few mature plants encountered measured only 9 inches in height. Mountain big sagebrush displayed no utilization. As one would expect, the rate of decadency declined from 61% in 1990 to 0% in 1996. Density remained similar in 2001 at 2,500 plants/acre. The population is mostly mature (94%), utilization moderate to heavy with vigor good. Mature plants are small in stature measuring only 11 inches in height.

Antelope bitterbrush density was low in the past and all were eliminated by the fire. Prostrate summer cypress was included in the seed mixture and has established extremely well. Estimated density was 11,980 plants/acre in 1996. Mature plants measured 7 inches in height and 11 inches in width. Utilization was mostly light, although some plants exhibited moderate use. Density remained stable in 2001, but use was moderate to heavy on most plants. Vigor remains good. Some white rubber rabbitbrush and stickyleaf low rabbitbrush have resprouted, but they are not abundant. Other species encountered include Saskatoon serviceberry, broom snakeweed, pricklypear cactus, and gray horsebrush.

The seeded herbaceous understory has established extremely well after the fire. Several seeded grasses, including crested and intermediate wheatgrass and orchard grass have become established. Native grasses, bluebunch wheatgrass and Sandberg bluegrass, have persisted and are abundant. Other grasses include sheep fescue, bulbous bluegrass, and bottlebrush squirreltail. Cheatgrass was abundant in 1996 but declined significantly in nested frequency and cover in 2001.

Forbs are diverse but perennial species are deficient. Seeded Alfalfa and small burnet, occur only occasionally, yet they were very robust and vigorous in 1996. Alfalfa has persisted but no small burnet was

encountered in 2001. Many annual forbs were encountered with most being very small in stature. They may decline over time with the competition from perennial species. This soil has a high temperature and likely becomes very dry in the upper horizons during the summer which may be a limiting factor to shallow rooted plants.

#### 1984 APPARENT TREND ASSESSMENT

The overall impression one gets of this area is stability. This is a good winter range site that shows relatively little erosion in spite of a rather thin ground cover. Mountain big sagebrush dominates the site and will most likely continue to do so.

#### 1990 TREND ASSESSMENT

The increased decadence and poor vigor of mountain big sagebrush and bitterbrush indicate a declining vegetative trend for this heavily used winter range. Virtually all the bitterbrush and 25% of the sagebrush have a heavily hedged growth form. Vigor is poor on many of the shrubs. There is limited reproduction. There are large bare areas in the understory but less cheatgrass than observed on similar sites. The frequency of bluebunch wheatgrass is almost unchanged. The ground cover indicates a decrease in the amount of litter cover and an increase in bare soil.

##### TREND ASSESSMENT

soil - stable (3)

browse - down (1)

herbaceous understory - stable but poor (3)

#### 1996 TREND ASSESSMENT

Soil trend is slightly upward with a decrease in bare ground cover and an increase in litter cover. The gentle terrain combined with vegetative and litter cover will prohibit most erosion. The fire that burned this site was beneficial to the mountain big sagebrush population. Percent decadency has decreased with nearly the same density as reported in the past. It is unclear at this point if the mountain big sagebrush was seeded or if came from the existing seed bank. Prostrate summer cypress is the most abundant browse with some moderate use apparent. Increaser or invader browse species are in low abundance and do not appear to be expanding at this time. Browse trend is up. Both seeded grasses and forbs are abundant and vigorous providing some competition for annual, weedy plants. Cheatgrass is still abundant but with a stunted growth form this season. Herbaceous trend is up due to the vigorous seeded species that have become established.

##### TREND ASSESSMENT

soil - slightly upward (4)

browse - up (5)

herbaceous understory - up slightly (4)

#### 2001 TREND ASSESSMENT

Trend for soil is down slightly but still in good condition. Percent cover for bare ground doubled since 1996. This occurred with an accompanying decline in litter cover. Herbaceous vegetation cover increased as many seeded and native grasses increased significantly in nested frequency. Erosion is not currently a problem and the soil erosion condition class was determined to be stable. Trend for browse continues to be stable. Mountain big sagebrush remains at a similar density compared to 1996. However, most plants are now mature. Use is moderate to heavy but plants are vigorous and there are no decadent individuals. The

dominant browse is the seeded, prostrate summer cypress which provides 54% of the shrub cover with a stable density of 11,500 plants/acre. Use is heavier than in 1996, but vigor is normal. Trend for the herbaceous understory is up. Sum of nested frequency for perennial grasses has increased with a significant increase in the frequency of crested and intermediate wheatgrass and Sandberg bluegrass. Nested frequency of the annual, cheatgrass, also declined significantly. Sum of nested frequency for perennial forbs declined slightly. However, perennial forbs contribute to only 6% of the total herbaceous cover.

#### TREND ASSESSMENT

soil - down slightly (2)

browse - stable (3)

herbaceous understory - up (5)

#### HERBACEOUS TRENDS --

Herd unit 05 , Study no: 4

T y p e	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
G	Agropyron cristatum	a-	a-	b <sub>103</sub>	c <sub>192</sub>	-	-	47	73	5.33	16.42
G	Agropyron dasystachyum	-	-	-	3	-	-	-	1	-	.03
G	Agropyron intermedium	a-	a-	b <sub>24</sub>	c <sub>79</sub>	-	-	18	31	1.51	3.19
G	Agropyron spicatum	25	27	35	12	14	14	16	8	1.13	.81
G	Bromus tectorum (a)	-	-	b <sub>315</sub>	a <sub>55</sub>	-	-	92	26	6.34	.28
G	Dactylis glomerata	a-	a-	b <sub>11</sub>	a <sub>1</sub>	-	-	6	1	.21	.03
G	Festuca ovina	-	-	2	-	-	-	1	-	.00	-
G	Poa bulbosa	-	-	1	4	-	-	1	2	.03	.01
G	Poa secunda	b <sub>187</sub>	d <sub>307</sub>	a <sub>92</sub>	c <sub>235</sub>	77	97	36	83	2.00	5.69
G	Sitanion hystrix	b <sub>15</sub>	b <sub>21</sub>	a <sub>1</sub>	a <sub>1</sub>	10	12	1	1	.00	.01
Total for Annual Grasses		0	0	315	55	0	0	92	26	6.34	0.28
Total for Perennial Grasses		227	355	269	527	101	123	126	200	10.24	26.19
Total for Grasses		227	355	584	582	101	123	218	226	16.58	26.47
F	Allium acuminatum	b <sub>18</sub>	a <sub>5</sub>	a-	b <sub>16</sub>	6	2	-	7	-	.03
F	Alyssum alyssoides (a)	-	-	b <sub>188</sub>	a <sub>141</sub>	-	-	60	58	1.45	.63
F	Antennaria rosea	6	5	-	-	3	4	-	-	-	-
F	Arabis spp.	-	3	-	-	-	1	-	-	-	-
F	Astragalus cibarius	-	-	1	3	-	-	1	2	.00	.18
F	Astragalus convallarius	-	-	-	4	-	-	-	2	-	.01
F	Astragalus utahensis	7	1	11	-	4	1	4	-	.21	-
F	Cirsium spp.	-	-	3	-	-	-	1	-	.00	-
F	Collomia linearis (a)	-	-	1	2	-	-	1	1	.00	.00
F	Comandra pallida	-	-	-	4	-	-	-	1	-	.03
F	Collinsia parviflora (a)	-	-	a <sub>3</sub>	b <sub>76</sub>	-	-	3	30	.01	.32

T y p e	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
F	<i>Crepis acuminata</i>	-	2	-	1	-	2	-	1	-	.15
F	<i>Cryptantha</i> spp.	6	-	-	-	2	-	-	-	-	-
F	<i>Cymopterus longipes</i>	a-	a10	c54	b32	-	4	30	17	.49	.21
F	<i>Draba</i> spp. (a)	-	-	a-	b105	-	-	-	38	-	.41
F	<i>Epilobium brachycarpum</i> (a)	-	-	-	2	-	-	-	1	-	.00
F	<i>Erodium cicutarium</i> (a)	-	-	-	1	-	-	-	1	-	.03
F	<i>Erigeron pumilus</i>	2	3	1	-	2	1	1	-	.03	-
F	<i>Gayophytum ramosissimum</i> (a)	-	-	b14	a-	-	-	7	-	.03	-
F	<i>Holosteum umbellatum</i> (a)	-	-	213	185	-	-	69	73	1.45	.76
F	<i>Lupinus argenteus</i>	-	-	-	5	-	-	-	2	-	.18
F	<i>Medicago sativa</i>	a-	a-	b18	b10	-	-	8	5	.82	.95
F	<i>Microsteris gracilis</i> (a)	-	-	-	3	-	-	-	1	-	.03
F	<i>Penstemon</i> spp.	3	-	-	-	2	-	-	-	-	-
F	<i>Phlox longifolia</i>	a-	a-	b25	ab10	-	-	9	4	.29	.07
F	<i>Polygonum douglasii</i> (a)	-	-	3	-	-	-	1	-	.00	-
F	<i>Ranunculus testiculatus</i> (a)	-	-	b263	a217	-	-	86	74	2.44	2.87
F	<i>Sanguisorba minor</i>	a-	a-	b16	a-	-	-	8	-	1.29	-
F	<i>Schoenocrambe linifolia</i>	-	-	3	1	-	-	1	1	.03	.00
F	<i>Sisymbrium altissimum</i> (a)	-	-	1	-	-	-	1	-	.03	-
F	<i>Tragopogon dubius</i>	4	-	3	5	2	-	1	2	.03	.03
Total for Annual Forbs		0	0	686	732	0	0	228	277	5.44	5.07
Total for Perennial Forbs		46	29	135	91	21	15	64	44	3.20	1.86
Total for Forbs		46	29	821	823	21	15	292	321	8.65	6.94

Values with different subscript letters are significantly different at alpha = 0.10 (annuals excluded)

BROWSE TRENDS --

Herd unit 05 , Study no: 4

T y p e	Species	Strip Frequency		Average Cover %	
		'96	'01	'96	'01
B	Artemisia tridentata vaseyana	58	52	1.08	2.00
B	Chrysothamnus nauseosus albicaulis	3	3	-	.03
B	Chrysothamnus viscidiflorus viscidiflorus	27	27	2.05	1.51
B	Gutierrezia sarothrae	1	3	-	.15
B	Kochia prostrata	95	95	7.61	4.27
B	Opuntia spp.	3	3	.15	-
B	Tetradymia canescens	1	1	-	-
Total for Browse		188	184	10.89	7.97

BASIC COVER --

Herd unit 05 , Study no: 4

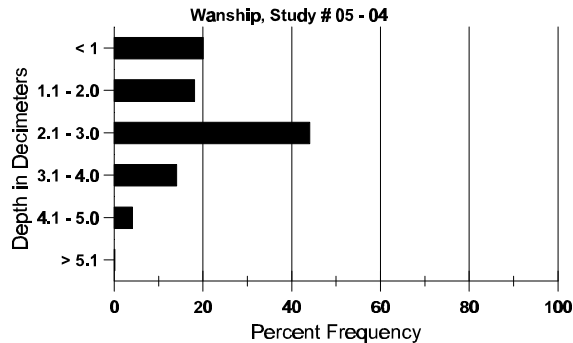
Cover Type	Nested Frequency		Average Cover %			
	'96	'01	'84	'90	'96	'01
Vegetation	392	367	3.00	15.75	37.70	44.98
Rock	248	168	9.00	9.00	11.57	9.17
Pavement	218	164	16.25	14.75	3.39	2.23
Litter	397	352	64.00	41.00	44.87	27.26
Cryptogams	52	40	.25	5.25	.47	.86
Bare Ground	280	284	7.50	14.25	11.60	24.70

SOIL ANALYSIS DATA --

Herd Unit 05, Study no: 04, Wanship

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
9.2	78.0 (8.3)	6.6	44.9	28.7	23.4	2.7	15.4	185.6	.5

## Stoniness Index



### PELLET GROUP FREQUENCY --

Herd unit 05 , Study no: 4

Type	Quadrat Frequency		Pellet Transect	
			Pellet Groups per Acre	Days Use per Acre (ha)
	'96	'01	'01	'01
Sheep	2	-	-	-
Rabbit	10	-	70	N/A
Elk	3	9	313	24 (60)
Deer	36	34	870	67 (165)
Cattle	1	1	157	13 (32)

### BROWSE CHARACTERISTICS --

Herd unit 05 , Study no: 4

Amelanchier alnifolia																		
A Y G R E	Form Class (No. of Plants)	Vigor Class									Plants Per Acre	Average (inches)		Total				
		1	2	3	4	5	6	7	8	9		1	2		3	4	Ht. Cr.	
M	'84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	24	28	0
	'01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
% Plants Showing		<u>Moderate Use</u>				<u>Heavy Use</u>				<u>Poor Vigor</u>				<u>%Change</u>				
	'84	00%				00%				00%								
	'90	00%				00%				00%								
	'96	00%				00%				00%								
	'01	00%				00%				00%								
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	0		-			
												'96	0		-			
												'01	0		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches)		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4		Ht.	Cr.	
Artemisia tridentata vaseyana																		
S	84	24	1	-	-	-	-	-	-	-	25	-	-	-	833			25
	90	4	-	-	-	-	-	-	-	-	4	-	-	-	133			4
	96	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	3	6	-	-	-	-	-	-	-	9	-	-	-	300			9
	90	5	2	-	-	-	-	-	-	-	6	1	-	-	233			7
	96	141	-	-	-	-	-	-	-	-	141	-	-	-	2820			141
	01	2	4	1	-	-	-	-	-	-	7	-	-	-	140			7
M	84	-	17	27	-	-	-	-	-	-	44	-	-	-	1466	33	43	44
	90	3	18	7	-	-	-	-	-	-	21	3	2	2	933	26	36	28
	96	3	-	-	-	-	-	-	-	-	3	-	-	-	60	9	9	3
	01	7	43	65	-	-	3	-	-	-	116	-	2	-	2360	11	13	118
D	84	-	15	38	-	-	-	-	-	-	42	-	3	8	1766			53
	90	10	29	16	2	-	-	-	-	-	32	6	4	15	1900			57
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	560			28
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		36%			61%			10%			-13%							
'90		53%			25%			25%			- 6%							
'96		00%			00%			00%			-13%							
'01		38%			55%			02%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	3532	Dec:	50%			
												'90	3066		62%			
												'96	2880		0%			
												'01	2500		0%			



A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Chrysanthamnus nauseosus albicaulis																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	3	-	-	-	-	-	-	-	-	3	-	-	-	60	13	14	3
	01	2	-	-	-	-	-	-	-	-	2	-	-	-	40	21	17	2
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	1	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%										
'96		00%			00%			00%			+ 0%							
'01		33%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	0%			
												'90	0		0%			
												'96	60		0%			
												'01	60		33%			
Chrysanthamnus viscidiflorus viscidiflorus																		
Y	84	10	-	-	-	-	-	-	-	-	10	-	-	-	333			10
	90	1	-	-	-	-	-	-	-	-	-	-	1	-	33			1
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
M	84	8	-	-	-	-	-	-	-	-	8	-	-	-	266	13	12	8
	90	14	5	1	3	-	-	-	-	-	9	-	14	-	766	11	12	23
	96	41	-	-	-	-	-	-	-	-	41	-	-	-	820	12	22	41
	01	28	-	-	-	-	-	-	-	-	28	-	-	-	560	12	22	28
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	7	-	-	1	-	-	-	-	-	3	-	2	3	266			8
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	5	1	-	-	-	-	-	-	-	5	-	-	1	120			6
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%			+44%							
'90		16%			03%			63%			-23%							
'96		00%			00%			00%			-12%							
'01		03%			00%			03%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	599	Dec:	0%			
												'90	1065		25%			
												'96	820		0%			
												'01	720		17%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Gutierrezia sarothrae																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	1	-	-	-	-	-	-	-	-	-	-	-	-	20	8	11	1
	01	4	-	-	-	-	-	-	-	-	-	-	-	-	80	7	11	4
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	1	-	-	-	-	-	-	-	-	-	-	-	1	20			1
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%										
'96		00%			00%			00%			+80%							
'01		00%			00%			20%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:		0%		
												'90	0			0%		
												'96	20			0%		
												'01	100			20%		

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Kochia prostrata																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	96	2	-	-	-	-	-	-	-	-	2	-	-	40			2	
	01	3	-	-	-	-	-	-	-	-	3	-	-	60			3	
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	96	161	4	-	-	-	-	-	-	-	165	-	-	3300			165	
	01	51	37	-	-	-	-	-	-	-	85	3	-	1760			88	
M	84	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0	
	96	376	50	-	6	-	-	-	-	-	432	-	-	8640	7	11	432	
	01	140	279	52	9	2	3	-	-	-	485	-	-	9700	6	9	485	
D	84	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	96	2	-	-	-	-	-	-	-	-	1	-	1	40			2	
	01	-	2	-	-	-	-	-	-	-	2	-	-	40			2	
X	84	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	96	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	20			1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%										
'96		09%			00%			.16%			- 4%							
'01		56%			10%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	0%			
												'90	0		0%			
												'96	11980		0%			
												'01	11500		0%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Opuntia spp.																		
Y	84	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1	
	90	2	-	-	-	-	-	-	-	-	2	-	-	-	66		2	
	96	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	90	5	-	-	-	-	-	-	-	-	5	-	-	-	166	3	5	
	96	4	-	-	-	-	-	-	-	-	4	-	-	-	80	4	4	
	01	3	-	-	-	-	-	-	-	-	3	-	-	-	60	5	3	
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	90	4	-	-	-	-	-	-	-	-	-	-	-	4	133		4	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%			+91%							
'90		00%			00%			36%			-67%							
'96		00%			00%			00%			-33%							
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	33	Dec:	0%			
												'90	365		36%			
												'96	120		0%			
												'01	80		0%			
Purshia tridentata																		
M	84	-	-	4	-	-	-	-	-	-	4	-	-	-	133	29	40	4
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	1	-	-	-	-	-	-	-	-	-	1	33			1
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			100%			00%			-75%							
'90		00%			100%			100%										
'96		00%			00%			00%										
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	133	Dec:	0%			
												'90	33		100%			
												'96	0		0%			
												'01	0		0%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Tetradymia canescens																		
M	'84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'96	1	-	-	-	-	-	-	-	-	-	1	-	-	20	11	18	1
	'01	1	-	-	-	-	-	-	-	-	-	1	-	-	20	12	34	1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
		'84			00%			00%			00%							
		'90			00%			00%			00%							
		'96			00%			00%			00%							
		'01			00%			00%			00%							
Total Plants/Acre (excluding Dead & Seedlings)												'84		0	Dec:			
												'90		0				
												'96		20				
												'01		20				